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Peanut Growing



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U. S. DEPARTMENT of AGRICULTURE

WHEN the East Indies fell to the Japanese in 1942 a major source of vegetable oils for the United States was cut off and a need created for an increased domestic production. Peanuts thus became a war crop, essential to the Nation in meeting domestic and lend-lease requirements for edible oil, and the Government sponsored a program for greatly increasing peanut acreages.

Prospective growers should see their local Agricultural War Boards, State agricultural college representatives, county agents, or other local agricultural leaders for plans and conditions to be met in producing peanuts under this program. Information that will help insure successful production is included in this bulletin.

Peanuts should be grown in a definite rotation, including at least two soil-improvement crops, such as cowpeas, velvetbeans, bur-clover, crimson clover, vetch, or any crop that will add organic matter to the soil. Peanuts should not be planted on the same land oftener than once in 3 or 4 years.

Good seed is the foundation of a profitable crop of peanuts. Seed treatment to improve stands and dusting to control leaf spots and leafhoppers are proving profitable in the long run.

The kind and quantity of commercial fertilizer that may be profitably used for peanuts depend largely on the fertility and character of the soil. Low-nitrogen and high-phosphorus mixtures are usually specified. When the fertilizer is used on peanuts directly, rather than on the previous crop in the rotation, the rates range from 300 to 500 pounds per acre.

Results obtained from the use of lime on peanuts by various investigators indicate that the quality of the peanuts is affected much more than the quantity. Peanuts grown on soils containing the proper amount of lime are usually better filled and have greater weight per bushel, and the shells are whiter.

PEANUT GROWING

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PEAUNTS are an important money crop in no less than nine of the Southern States. The peanut is a native of the Tropics and was introduced into North America during the early days of colonization but did not become commercially important until about 1876. From that time until about the beginning of the twentieth century its importance as a farm crop was relatively small, but since then the production and use of peanuts have increased enormously.

In 1941 approximately 2 million acres of peanuts were harvested in the United States. In 1942 that acreage was more than doubled; over 4 million acres were planted in an effort to meet increased requirements for vegetable oils. It is estimated that more than 5 million acres are needed to produce the country's requirements during wartime.

CONDITIONS NECESSARY FOR PEANUT GROWING

The peanut is a pea rather than a nut and belongs to the same group of plants as do beans and common garden peas, differing only in that it possesses the character of maturing its fruit, or pod, beneath the surface of the soil. The small yellow flowers are borne at the joints where the leaves are attached to the stems, and as soon as pollination takes place the flower fades and the "peg," as it is commonly called, elongates and goes into the soil, where the pod develops. Hence, it is essential that the crop be grown on soil where a loose surface can be maintained.

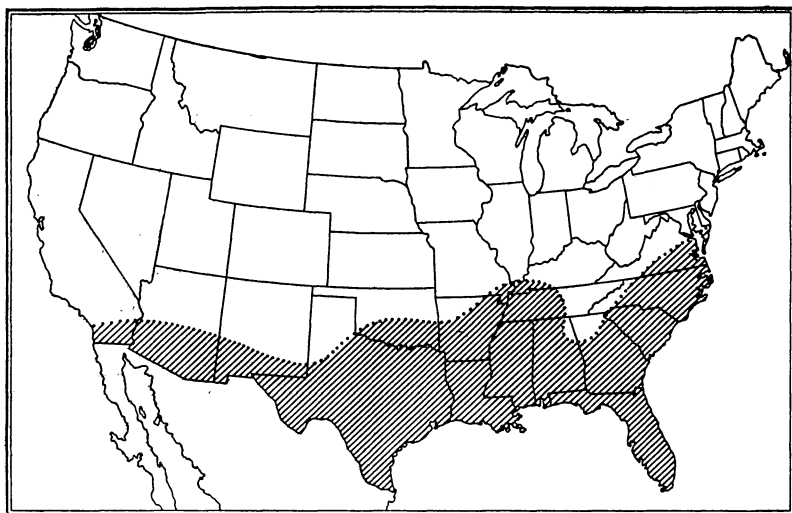


FIGURE 1.—Outline map of the United States, showing the possible region adapted to the production of peanuts.

Peanuts will adapt themselves to a wider range of climate if soil conditions are favorable than almost any other southern crop. The climatic requirements of the peanut are a season of 100 to 140 days without frost, moderate rainfall during the growing period, an abundance of sunshine, and a relatively high temperature. Best results are obtained under conditions where the normal annual rainfall is from 42 to 54 inches. Peanuts are frequently grown under irrigation. However, fair yields have been made without irrigation where the annual rainfall is less than 19 inches. On the other hand, good crops have been produced on low bottom lands with 54 to 60 inches of rainfall.

Light sandy loam is best adapted to the production of peanuts for the market. Poorly drained or sour soils are not generally desirable. For hog feeding or as forage the crop may be grown on almost any type of soil except the black waxy and heavy clays. Sandy loams that will produce good crops of beans and potatoes are considered suitable for growing peanuts.

The territory indicated on the shaded portion of the map shown in figure 1 is, for the most part, adapted to the production of peanuts. Outside of this region their cultivation is more or less uncertain, although in a few localities they may be grown successfully for stock feeding. The soil conditions and climate of southeastern Virginia and northeastern North Carolina seem to be especially adapted to the growing of the Jumbo, Virginia Bunch, and Virginia Runner varieties, which constitute the bulk of the large-podded peanuts appearing on our markets. Throughout the Gulf coast region, Oklahoma, and Arkansas the Spanish variety has proved satisfactory, but peanuts of the small runner type are grown extensively in Alabama, Georgia, South Carolina, and Florida.

SELECTION AND PREPARATION OF THE SOIL

In selecting land for peanuts, the grower must consider two things: (1) The character and adaptability of the land and (2) the

character of the crops planted or the rotation practiced during previous years. The peanut crop is subject to injury from crabgrass and other weeds; therefore, it should follow some crop that has been kept clean. Cowpeas, velvetbeans, sweetpotatoes, and potatoes are good preparatory crops. Winter oats also are frequently followed by a late-planted crop of peanuts. Cornstalks or cotton stalks interfere greatly with the cultivation and harvesting and should be either removed or plowed under to a depth of at least 8 or 9 inches.

Peanuts should not be planted on the same land oftener than once in 3 or 4 years. The rotation should include at least two soil-building crops, one of which is a winter cover crop. Cowpeas or velvetbeans, planted either alone or with corn, are good soil builders. Winter cover crops include bur-clover, crimson clover, giant red clover, alfalfa, vetch, rye, barley, purple-top turnips, and English cow-horn turnips.

In a rotation experiment at the Virginia Truck Experiment Station, near Norfolk, corn with crimson clover as a winter cover crop was grown the first year, early potatoes followed by cowpeas the second year, and Spanish peanuts the third year, followed by rye as a winter cover crop. This experiment extended over 10 years, and for the last 3 years the rotation plots yielded approximately three times the quantity of peanuts produced on an adjacent plot growing peanuts continuously.

Another rotation which gave good results at the Pee Dee Experiment Station, Florence, S. C., included peanuts the first year with a winter crop of oats and vetch following the peanuts. These were harvested for hay and the land was devoted to cowpeas, which were also harvested for hay. A crop of sweetpotatoes the third year completed the rotation. Only the peanuts and sweetpotatoes were fertilized.

If considerable rough material is to be turned under, fall or winter plowing should be practiced except on soils that wash badly. Buck-shot or other heavy soils on which peanuts are grown for stock feeding are benefited if turned up to the action of frost during the winter months.

Thorough preparation of the land before planting is essential. The good peanut grower, even though his land is naturally mellow, plows every inch of space, then harrows and drags it at least three times, or until the soil is in the best possible condition. The subsequent cost of cultivation is thereby greatly reduced. The land should be deeply plowed broadcast, preferably with a two-horse turning plow, rather than bedded, as is often done for cotton or corn. With good seed and thorough preparation of the soil a good stand is obtained; otherwise a profitable crop cannot be made.

FERTILIZERS AND MANURE

The kind and quantity of commercial fertilizer that may be profitably used for peanuts depend largely on the character and fertility of the soil. Oftentimes fertilizer may have little effect on peanut yields if the soil is naturally good. Since peanuts often respond to fertilizer less than many other crops do, especially on the better soils, many growers do not fertilize peanuts directly but depend on the residual effect of fertilizer applied to a previous crop in the rotation. The commonest rates of application are from 300 to 400 pounds, when the fertilizer is used directly on the peanut crop.

Commercial fertilizer is usually applied in the row just before planting, or with a planter equipped with a fertilizer distributor. If applied in the row either by hand or with a one-horse distributor the fertilizer should be thoroughly mixed with or placed in the soil so that it does not make direct contact with the seed.

Recommendations for fertilizing peanuts differ in minor respects among the several States and districts where peanuts are grown but in general agree in specifying a low-nitrogen and high-phosphorus mixture. A medium percentage of potash is generally indicated, but in special instances high potash is called for. In table 1, a summary of recent State recommendations, are shown the amounts and analyses of fertilizer to be applied. Some States recommend no fertilizer if the peanuts are grown in a rotation with other well-fertilized crops.

TABLE 1.—*Various fertilizer and soil-treatment recommendations*

State	Analysis of fertilizer (N-P ₂ O ₅ -K ₂ O)	Amount of fertilizer per acre	Amount of limestone per acre
	<i>Percent</i>	<i>Pounds</i>	<i>Pounds</i>
Alabama.....	0-16-12	1 200	
Arkansas.....	0-12- 6	200 to 300	
	2-10- 4	200 to 400	
	or		
Florida.....	0-18- 0	150	
	and		
	0- 0-60	30	
	3- 8- 8	300	
Georgia.....	and		
	16- 0- 0	2 100	
	0-12- 4	300	
Louisiana.....	or		
	4-12- 4	300	
	0-12- 6	250	
Mississippi.....	or		
	0- 8- 8	250	3 400
	0- 8- 8	200	3 400
North Carolina.....	or		
	2- 8-10	200	3 400
Oklahoma.....	2-12- 6		
	0-12-12	300	(⁴)
	or		
South Carolina.....	3-12- 6	300	(⁴)
	0-10-10	1 400 to 500	500
Virginia.....	or		
	0-14- 6	1 400 to 500	500
Texas.....	4-12- 4	200	

¹ Use no fertilizer on peanuts in rotations of other crops that have been well fertilized.

² Top dressing.

³ Dolomitic limestone applied in the row.

⁴ Broadcast enough limestone to correct a very acid condition of soil.

Peanuts require organic matter in the soil; this may be supplied either in the form of well-rotted manure or by means of soil-improving crops, such as cowpeas, clovers, vetches, or any crop ordinarily used in the locality for improving the soil. Because the supply of manure available on the average farm is limited, it can be used, as a rule, to better advantage on other crops than peanuts. Many growers believe that the use of manure causes an excessive development of vine growth and an increased number of "pops" or poorly filled pods.

Peanuts, as ordinarily handled, do not improve the soil, despite the fact that they have the power of collecting the free nitrogen

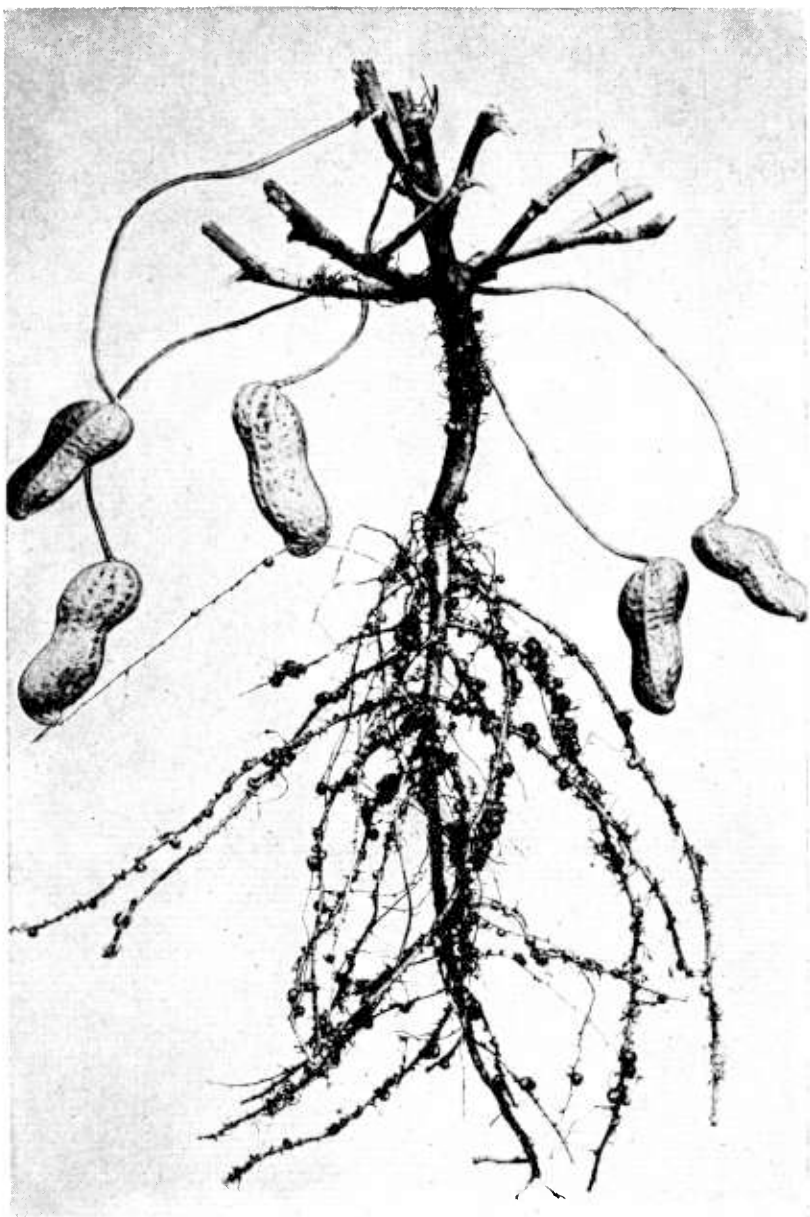


FIGURE 2.—Roots of a peanut plant, showing nodules formed by nitrogen-collecting bacteria.

of the atmosphere and storing it in nodules on their roots (fig. 2). If, in harvesting, the greater part of the roots are cut off and left in the ground, the drain on soil fertility should be reduced somewhat. Because of the system of harvesting now followed, however, peanuts do not improve the soil as do the clovers, cowpeas, velvetbeans, and alfalfa, the root systems of which are not removed from the ground.

If the peanut hay or straw is returned to the land and plowed under, the crop depletes the soil less seriously. A more efficient way of reducing this draft on the soil is to feed the hay to farm animals, conserve the manure carefully, and return it to the land.

LIME AND GYPSUM

Results obtained from the use of lime on peanuts by various investigators indicate that the quality of the peanuts is affected much more than the quantity. Peanuts grown on soil having sufficient lime are usually better filled and have a greater weight per bushel, and the shells are whiter.

Additional lime is not always needed by soils devoted to peanuts, but it would be a great mistake for any grower to conclude offhand that he should not use lime. It should also be borne in mind that the lime requirements of adjoining fields may differ and that the only safe method is to test the soil acidity, or, if it is thought that lime is needed, to make a moderate application of 500 to 600 pounds per acre.

Gypsum, like lime, is sometimes beneficial to peanuts; it is usually used at about the same rate as lime. The workers of the Agricultural Experiment Station of the University of North Carolina and of the Virginia Agricultural Experiment Station came to the conclusion that the application of lime or gypsum is profitable on decidedly acid soils but not on slightly acid or neutral soils. They also concluded that if lime is used applications of gypsum are not profitable but advised the use of gypsum when the peanuts are in bloom in case the soil is acid and no lime is applied before planting.

PEANUT SEED AND ITS CARE

SELECTION OF SEED

The average size of peanut kernels depends largely on hereditary qualities and not on occasional large seeds. It is of little use, therefore, to employ large seed screened out of miscellaneous lots without consideration of their hereditary size. Many peanut growers have practiced seed improvement for years and have developed strains that are above the average in size and yielding qualities. Much good can be accomplished by locating these special stocks, whether in the hands of growers or of dealers, and using them for planting. Plant breeders are making renewed efforts to produce strains and varieties of peanuts that will yield a higher percentage of extra large kernels, more oil, or more hay per acre. Shellers and cleaners who have in their warehouses desirable seed material of strains that shell a high percentage of fancy kernels can do much to help the industry by making this material available for seed purposes. Growers of Virginia-type peanuts will find it to their advantage to substitute the large-type seed for the miscellaneous small stock which they would otherwise plant, as the substitution will undoubtedly result in a higher proportion of large kernels.

The corn and wheat crops of the country have been increased many millions of bushels through seed improvement, and the same opportunity exists with peanuts. The proper method of producing seed is to grow a special seed patch the seed for which was selected from vigorous, high-producing plants the previous year.

Peanuts intended for seed, after becoming fully mature, should be dug carefully during bright weather and placed in small stacks around poles, as described under "Curing" (p. 18). After a curing period of about 4 to 6 weeks the seed peanuts should be picked from the vines and stored. Under the most favorable curing conditions peanuts may be ready to pick 3 weeks after they are dug.

STORAGE OF SEED

Special care should be taken to protect peanut seed from damage by insects, mice, or other pests and from unfavorable storage conditions. On the farm a cool, dry, well-ventilated place, such as the loft of a granary or corncrib, is well suited to peanut seed storage. Small quantities, up to a few bushels, may be stored in sacks hung from overhead supports or otherwise protected from rodents, or dry seed may be stored in metal cans provided with screen-covered openings for ventilation. A good storage for larger quantities of peanut seed may be provided by building a suitable-sized enclosure or room in a granary or corncrib and covering the floor, sides, and ceiling with $\frac{1}{4}$ -inch wire mesh. A room of this kind will soon pay for itself in the seed saved. It may be sufficiently large to hold any portion of the crop, thereby making it possible to hold peanuts on the farm as long as may be desired without loss from animals.

Work carried on during the period from 1921 to 1926 at the Pee Dee Experiment Station, Florence, S. C., and in the cold-storage plant at Arlington Experiment Farm, Arlington, Va., showed that shelled peanut seed kept in storage for several months does not retain its viability quite as well as unshelled seed. A summary of this work is given in table 2.

TABLE 2.—*Germination and yield of shelled and unshelled peanut seed kept over winter in cold storage*¹ (32° and 40° F.) and at natural warehouse temperature (about 70°)

Variety	Temperature	Germination		Yield per plot (0.01 acre)	
		Shelled	Unshelled	Shelled	Unshelled
	° F.	Percent	Percent	Pounds	Pounds
Spanish	32	74.84	77.96	15.63	15.75
	40	71.14	75.94	12.63	16.00
	70	76.79	75.87	17.50	15.25
Improved Spanish	32	69.28	71.96	15.50	18.75
	40	65.39	71.09	15.17	16.00
	70	67.67	71.58	14.92	16.92
Virginia Bunch	32	46.08	68.73	8.08	13.75
	40	47.48	66.71	11.00	13.58
	70	49.58	72.11	7.75	17.17
Virginia Runner	32	56.52	73.67	8.75	14.25
	40	52.82	68.60	8.83	12.42
	70	54.57	69.28	10.58	12.75

¹ Cold-storage plant at the Arlington Experiment Farm.

AGE OF SEED

Tests made at the Pee Dee Experiment Station with peanut seed of different ages showed that it may be kept under cool, dry conditions for 4 to 5 years without serious loss in germinating qualities or ap-

preciable reduction in the size of the crop. Seed grown in the years 1921 to 1926 was planted every year from 1922 to 1927, inclusive. While the seed of both the Valencia and Improved Spanish varieties grown in 1921 and 1922 showed a reduction in germination in 1926 and 1927, it was still worth planting. It would be distinctly advantageous to carry a partial supply of especially good peanut seed stocks over a season or two to guard against failure to obtain enough good new seed. Peanut seed kept over must be stored in a cool, moderately dry, well-ventilated place and carefully fumigated twice each season with carbon disulfide to destroy insects. Seed stored from season to season should be unshelled.

PREPARATION FOR PLANTING

During the winter months when there is spare time the seed peanuts should be prepared for planting. The dirt, trash, and light pods should be removed. If a large quantity of seed is to be handled it may be run through the picker under a heavy fan blast. A fanning mill may also be used to separate the heavy, well-filled pods from the dirt and trash. In many cases it is possible to obtain seed from commercial peanut cleaners who are willing to set aside high-producing lots for seed purposes. These concerns have equipment for cleaning peanuts at very low cost. After being cleaned, the peanuts may be stored unshelled until planting time, or they may be shelled. Experimental work at the Pee Dee Experiment Station has shown that peanut seed may be shelled a few months before planting without deteriorating in quality if properly stored. The results of this work are summarized in table 3. Peanut seed shelled as early as February gave practically the same germination and yield as that shelled just prior to planting.

TABLE 3.—Average germination and yield of 7 varieties of peanuts from seed shelled in different months during 3 years

Variety	December shelling		January shelling		February shelling		March shelling		April shelling		May shelling	
	Germination ¹		Germination ¹		Germination ³		Germination ³		Germination ³		Germination ³	
	Yield ²		Yield ²		Yield ¹		Yield ¹		Yield ¹		Yield ¹	
	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.
Jumbo.....	87.07	855	82.91	990	78.26	956.2	81.75	900.0	77.41	1,642.5	78.38	1,046.2
Virginia Bunch.....	88.89	855	90.97	540	87.07	1,125.0	72.24	1,001.2	86.62	1,530.0	78.90	1,260.0
Virginia Runner.....	94.16	585	92.63	855	85.66	1,372.5	75.02	1,260.0	85.22	1,395.0	85.57	1,075.0
Alabama Runner (African).....	93.05	675	91.67	855	86.21	1,035.0	77.76	922.5	78.67	978.5	83.33	1,237.5
Valencia.....	92.08	360	93.19	495	88.71	776.2	76.15	630.0	75.32	652.5	87.09	810.0
Spanish.....	93.16	900	95.55	900	91.96	877.5	86.62	911.2	87.26	900.0	92.62	843.5
Improved Spanish.....	90.41	1,125	91.24	1,125	92.10	1,327.5	78.58	1,023.5	81.23	1,057.5	85.37	1,023.5

¹ 2 years only.

² 1 year only.

³ 3 years.

The utmost care should be observed to avoid injury to the seed when they are being shelled. Breaking of the skins of the kernels will seriously affect germination. This seems to be especially true when seed is shelled a few months before planting. Irrespective of

the time of shelling, it is best to shell either by hand or by some type of machine that will not damage the kernels. Peanut shellers that will do the work without much damage to the seed are available, but it is always necessary to hand-pick the seed carefully after they are shelled by machine, to remove all damaged kernels.

SEED TREATMENT

Recent experiments by a number of experiment stations and other research agencies show that in general very worth-while improvements in stand of peanuts can be obtained by treating the seed to prevent disease and decay in the soil. Machine shelling of seed breaks the seed coats, or skins, of many seeds, although no other damage may be visible. These breaks or scratches in the seed coat allow bacteria or fungi in the soil to attack the seed and damage it before a normal plant can become established in the field. Hand shelling does not damage the seed so much. Seed treatment has been of much greater benefit on machine-shelled than on hand-shelled or unshelled seed, but it has improved stands appreciably for all types of seed when field conditions were unfavorable for germination.

Seed treatment is of little benefit on good hand-shelled seed when the soil and weather are just right for getting good stands. It is, however, good insurance against loss of seed or seedlings during cold, rainy spells soon after the seeds are planted. Machine-shelled treated seed has given as much as twice the stand of similar non-treated seed, but sometimes the benefit is small.

Only a limited number of chemicals have been tested extensively enough to permit recommendations at this time. Among those that appear very satisfactory are Arasan (Dubay 1205-FF), 2 percent Ceresan, and Spergon. Arasan should be used at the rate of 2 ounces per 100 pounds of seed, 2 percent Ceresan at 3 ounces per 100 pounds, and Spergon at 3 ounces per 100 pounds of seed.

The treatment is carried out by rotating the seed with the dust in a tight drum or other container until the seed is thoroughly and uniformly coated with the dust.

INOCULATION

Artificial inoculation of peanut seed with the peanut strain of nitrogen-fixing, or nodule, bacteria has given variable and inconsistent results. Some experiences show it to be beneficial, but others show no benefit. Inoculation is not generally practiced and is not generally recommended.

Inoculation should not be attempted if the seed is to be or has been treated chemically to prevent seed rots. Most chemical treatments will kill the nodule bacteria applied to the seed, rendering the artificial inoculation useless.

PLANTING

TIME OF PLANTING

Throughout the greater part of the commercial peanut area the planting of the main crop is done between April 10 and May 10, but in no case should the seed be planted until the soil is reasonably



FIGURE 3.—Peanuts planted on the contour and in crop strips, recommended on land subject to erosion.

warm. The large varieties require a longer period for their development than do those of the Spanish type. Best results are obtained from early planting, but in the Gulf coast region Spanish peanuts may be planted as late as July 1 and a fair yield obtained. When large acreages are grown, plantings should extend over a period of at least 3 or 4 weeks, so that the entire crop will not be ready for harvesting at one time.

PREPARATION OF LAND FOR PLANTING

If the land has been well fitted and leveled, the rows at planting time may be laid off with a one-horse marker. The fertilizer is then distributed and the peanut planter is run along the same marks. A planting gang, consisting of a team attached to the harrow, a one-horse marker, two fertilizer drills, and two peanut planters, will plant 10 to 12 acres a day. On a small scale two men with a two-horse team can work to advantage. First, a section of the field is dragged or harrowed; then one horse is used to mark the rows and sow the fertilizer, while the other is employed to draw the peanut planter. From 4 to 5 acres a day may be planted in this manner.

On land subject to erosion peanuts should be planted on the contour and in crop strips (fig. 3).

PLANTING DISTANCES AND QUANTITY OF SEED

Planting distances depend partly upon the fertility of the soil, but mainly upon the variety grown. Such varieties as the Spanish, Improved Spanish, Valencia, and Tennessee White, which have

medium-sized upright plants, may be planted much closer than Virginia Runner and Alabama Runner (African), which have large spreading plants. Spanish and similar sorts are sometimes planted in rows 24 inches apart, whereas the larger sorts are sometimes planted in 42-inch rows. For small-top kinds 30-inch rows and for large-top ones 36-inch rows are usually satisfactory. Experiments at the Pee Dee Experiment Station showed that on the light sandy loams of that region the highest yields were obtained where the seeds of both the Spanish and Virginia Bunch varieties were dropped very close in the row, the best yields being obtained at a distance of 3 inches, with the rows 30 inches apart. Practical growers in the southern Georgia peanut section recommend 24-inch rows with 4-inch spacing of shelled Spanish seed. Whether these distances would hold good on the rich river-bottom lands in certain parts of the South is a question, but there can be no doubt that under most conditions a better stand and a higher yield will be obtained by closer planting.

The use of shelled seed makes it possible to plant more uniformly, but shelled seed should not be planted until soil conditions are favorable, as otherwise it might rot. The tendency, however, is more and more to use shelled seed. Unshelled seed may be soaked overnight to hasten germination. Shelled seed, however, should never be soaked, as such treatment injures the skins and interferes with germination.

A good grade of Virginia-type peanuts will count about 1,000 or even as low as 500 seeds to the pound and Spanish and others of the small types about 1,500 to 1,000 seeds, usually about 1,250 to the pound. By counting the number of rows per acre and by knowing the spacing of the peanuts in the row it is an easy matter to determine the theoretical quantity of seed needed. Plenty of extra seed should always be provided, not only for the original planting but for replanting in case of failure to obtain a stand. The number of pounds of seed given in table 4 varies according to size of seed between the limits stated. Allowance should be made for seed larger or smaller than the sizes given and to provide a surplus for replanting.

Well-cleaned, unshelled peanuts of a good grade are about 70 percent kernels, 4 to 5 percent of which will be small. If unshelled seed are being planted, therefore, provision should be made for at least one-half more seed by weight.

TABLE 4.—*Approximate quantity of shelled peanut seed needed to plant 1 acre*

Variety	Spacing of seeds in row	Quantity of seeds required when planted in rows of the width indicated		
		24 inches	30 inches	36 inches
	<i>Inches</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
Spanish and other small sorts with 1,500 to 1,000 seeds to a pound..	3	55-85	46-69	37-56
	4	43-65	35-52	28-42
	6	29-43	23-34	15-28
	8	22-33	17-26	14-21
Virginia and other large sorts with 1,000 to 500 seeds to a pound..	4	65-130	52-104	42-84
	6	43-86	35-70	28-56
	8	33-66	26-52	21-42
	10	25-50	20-40	16-32

HAND AND MACHINE PLANTING

When seed are being planted by hand, a small furrow is opened with a single-shovel plow, the seed being dropped and covered with a one-horse cultivator or with a hand hoe.

Peanut seed should be covered to a depth of $1\frac{1}{2}$ to 2 inches on light sandy soils and 1 to $1\frac{1}{2}$ inches on the heavier soils. If the soil contains plenty of moisture, the depth should be less than if moderately dry. Slight firming of the soil over the seed is desirable, and the modern planting machines are fitted with a concave wheel that follows the covering blades and slightly rolls or firms the soil.

Much depends upon the care taken by the operator of the planting machine, to see that it is dropping and covering properly. Some of the machines on the market are fitted with agitators, which keep the peanuts from packing together in the hopper. Plenty of seed should be kept in the machine, and any remaining stems or trash should be removed frequently in order to prevent clogging. A peanut planter is shown in figure 4.

PROTECTION FROM BIRDS AND RODENTS AFTER PLANTING

In sections where crows, pigeons, salamanders, squirrels, or other pests destroy the peanut seed after it is planted, it should first be spread on the floor or on a wagon sheet, sprinkled with a mixture of equal parts of pine tar and kerosene, and stirred to distribute the mixture uniformly. It is neither necessary nor desirable that the material cover the entire pod or kernel, as a little will be effective.

This treatment may be used for both shelled and unshelled seed, but great care should be exercised to avoid injury to shelled seed while handling.



FIGURE 4.—Filling a one-row, one-horse peanut planter.

CULTIVATION

Cultivation of the peanut crop should begin as soon as the rows can be followed and should continue until the vines occupy the greater portion of the ground. Frequent shallow cultivation, similar to that given beans and peas, is an essential for success in the production of a peanut crop. As soon as the soil is reasonably dry after a rain the surface should be

stirred, and during dry weather a soil or dust mulch will help to conserve moisture. In some sections of Virginia and North Carolina, on sandy loams that are free from trash, the peanuts are harrowed carefully, about a week after they are up, with a light spike-tooth harrow with the teeth set sloping back. At least one hand hoeing will be necessary; the best time to do it is usually about the time the plants begin to spread, or after the third cultivation. About five cultivations are required; however, the number will depend largely upon weather conditions.

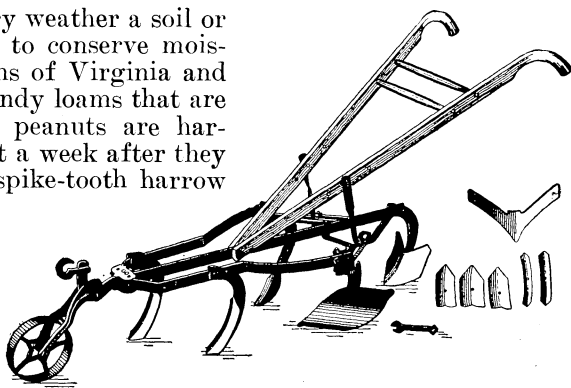


FIGURE 5.—A one-horse cultivator.

Shoveling soil upon the center of the peanut plants injures the quality of the hay, and it is doubtful whether a greater number of pods are formed.

IMPLEMENTS FOR CULTIVATION

In most sections of the South sweeps and five-tooth cultivators are already on the farms. Of the two the five-tooth cultivator is preferable, especially if provided with two or three sizes of shovels. The first one or two cultivations should be made with the $1\frac{1}{4}$ -inch or narrow shovels, and subsequent workings with the $2\frac{1}{2}$ - or 3-inch shovels or points (fig. 5). By working the soil toward the rows during cultivation a broad, flat bed of earth will be formed, leaving a water furrow between the rows.

On light sandy soils, such as are found in many sections of the peanut region, the greater part of the work of cultivation can be done by means of a one-horse weeder of the special type shown in figure 6. This tool is light and can be dragged diagonally across the rows, first in one direction and then in the other, without serious injury to the plants. At the station at Florence, S. C., it has been found that practically no hand hoeing is necessary where the crop is worked three or four times with this type of tool at 4- to 6-day intervals. After the pegs begin to take hold of the soil a riding cultivator may be used between the rows. A small tooth should be placed next to the row and so adjusted that it will not go more than 2 inches into the soil. Next to this there should be a large tooth and a sweep in the center of the row. The vines must not under any circumstances be disturbed after they begin to "peg down," and only the middles should be cultivated after the pods begin to form.

After the pegs or pods begin to form they should not be disturbed, but a narrow cultivator or sweep should be used to keep the middles clean and to work a little loose soil under the sides of the plants, thus providing a bed of fine earth in which later pods may form.

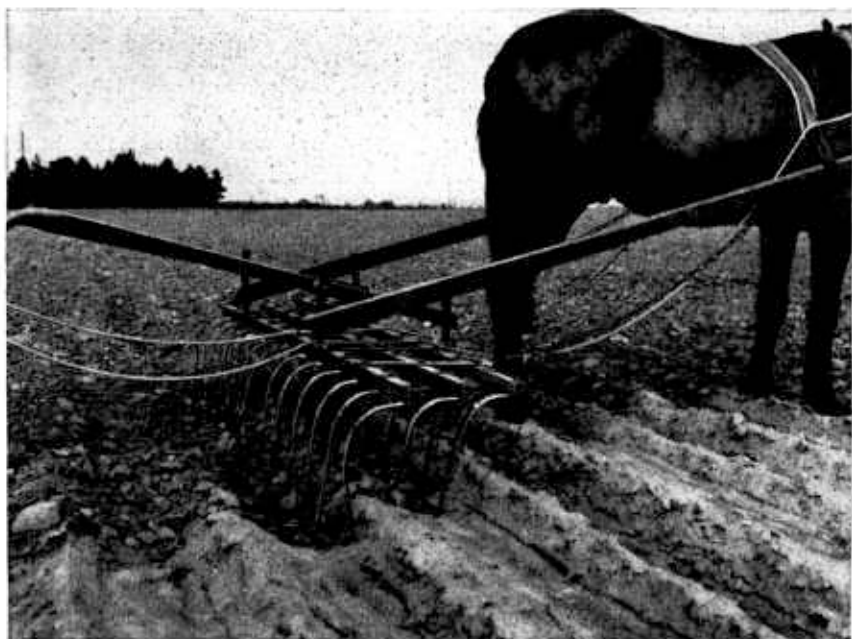


FIGURE 6.—A weeder, which is used at right angles to the rows at the first cultivation.

ENEMIES OF THE PEANUT

Until the last few years the peanut was believed to be generally free from the hazards of diseases and insects, but it is now known that certain diseases and insects have been causing more damage than was formerly realized; and some of these are becoming more serious. Fortunately, fairly effective control measures have been developed for some of these troubles.

Seed and seedling disease losses can be greatly reduced by seed treatment (p. 11).

Leaf spot diseases and leafhoppers destroy the foliage, reduce the yield of peanuts, seriously reduce the yield and quality of the hay, and often necessitate abnormally early harvest. Recent work by several research agencies has shown increases in yields of nuts up to 300 or 400 pounds per acre or more from adequate dusting with sulfur or copper-sulfur dusts and from spraying with 4-4-50 bordeaux mixture.

If power equipment for either spraying or dusting other crops is available, it can be adapted for use on peanuts. If equipment must be purchased, dusters will probably be less expensive and less difficult to obtain than sprayers.

Copper-sulfur dusts have given a little better results than straight dusting sulfur, but they cost about a third more. During wartime dusts containing copper are more difficult to obtain. The straight 325-mesh sulfur dusts are generally plentiful and are being very profitably used.

In most areas the first dusting or spraying is given early in July, when the leaf spots or insect damage first appears. Two more applications at 10-day to 2-week intervals, depending on local and sea-

sonal conditions, are generally recommended. If, however, rain removes the dust or spray within 24 hours of an application, the treatment should be repeated.

About 15 pounds of dust per acre is enough for the first application and about 20 pounds of dust for each of the later dates will be enough if it is uniformly applied with properly adjusted equipment. About 60 or 70 gallons of bordeaux spray per acre for the first application and about 100 gallons for each of the later two have been recommended.

Long rotations including crops less susceptible to southern root rot are recommended to help hold down losses from that disease, but no satisfactory control is known.

HARVESTING AND CURING

TIME OF HARVESTING

Peanuts should be harvested before the vines are killed by frost. When to harvest the crop may be determined in two ways: (1) By a slight yellowing of the foliage and (2) by an examination of the pods. If the peas are full-grown and the inside of the shells has begun to color and show darkened veins, it can be assumed that they are ready for harvesting. The tendency of many farmers has been to dig too early and before most of the peanuts have fully developed. On the other hand, if harvesting is deferred too long the peanuts shed their leaves, and in the case of the Spanish variety many kernels will be lost by sprouting, especially if a rainy period should occur.

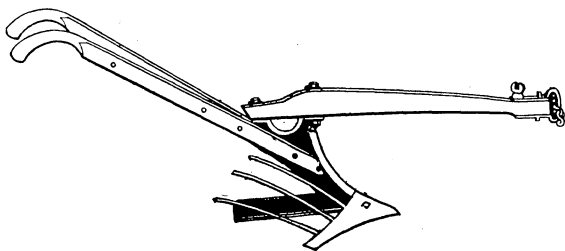
METHODS OF DIGGING

Peanuts should be loosened from the soil by means of a sharp implement that will cut off the greater portion of the root system on which the nitrogen nodules are borne. A number of diggers of the plow type that do this in a fair manner are on the market; there are also special peanut points to be attached to an ordinary turning plow from which the moldboard has been removed (fig. 7).

Regular machine potato diggers with elevators (fig. 8) have been found very satisfactory where the soil is reasonably dry and the crop is free from grass. These machines not only lift the peanuts from the ground but also shake off the soil. By regulating the depth of the point, the roots can be cut off just deep enough to avoid loss of the pods, leaving most of the nitrogen-collecting nodules in the soil.

Peanut diggers attached to a small tractor harvest two rows at a time (fig. 9). Where there is danger of erosion the soil should not be left bare after the peanuts are dug. In some areas a

FIGURE 7.—Plow type of peanut digger.



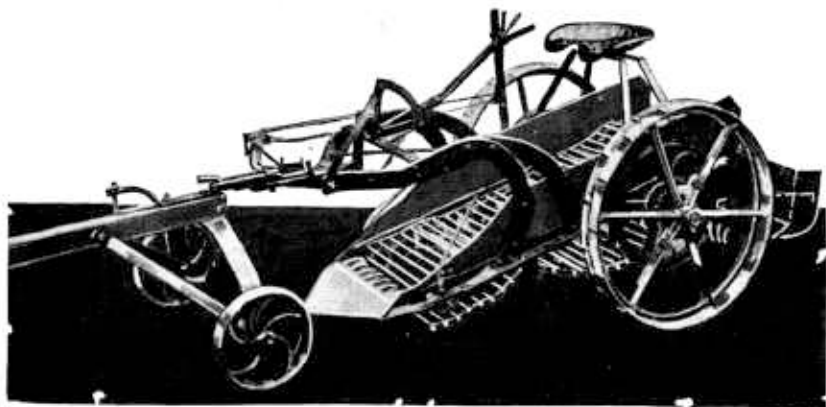


FIGURE 8.—Potato digger used for harvesting peanuts.

cover crop, such as wheat, is used. Digging should not begin in the morning until the vines are dry, and no more should be dug than can be placed in stacks during the day.

CURING

After the peanut vines are loosened and the soil is shaken from them they are allowed to lie either spread on the ground or in small bunches until the leaves are slightly wilted, but not until they become curled or brittle. If the weather is suitable for curing the crop, stacking may begin within an hour or two after digging.

FIGURE 9.—Peanut digger attached to small tractors harvests two rows at a time.





FIGURE 10.—A side-delivery rake, which saves considerable time and labor in harvesting peanuts.

There is but one way of curing peanuts so that the pods will remain bright and clean. That is by putting them in small stacks around poles to which two crosspieces have been nailed a few inches above the ground. Curing in windrows may succeed about 1 year out of 5 in sections having little rainfall at harvesttime, but the farmer who uses this method is always taking a great risk of losing his market crop. In the western part of the peanut-growing region, where there is much less rainfall around harvesttime, windrow curing is feasible with peanuts grown for oil, although some hazard is involved. On a clean, weed-free crop a side-delivery rake (fig. 10) greatly reduces the labor of windrowing the peanuts for the stackers.

Small poles or split stakes 3 to 4 inches in diameter at the base, cut 7 feet in length and sharpened at both ends, are the best type of stake around which to stack peanuts. The crosspieces should be 14 to 18 inches long and may consist of edging strips from the sawmill or short pieces of split timber similar to stovewood. From 15 to 30 stacking poles will be required for an acre, and both poles and crosspieces should be ready for use well in advance of harvesttime. Two



FIGURE 11.—Poles around which stacks of peanuts are to be built.

crosspieces only are required for each pole, and these are nailed at right angles, one directly above the other, as shown in figure 11.

Then 12 to 14 rows of peanuts are placed in a stack row. After a sufficient number of rows are dug the stakes are distributed and set by making holes with a post-hole digger, crowbar, or an old wagon axle, inserting the stakes, and tamping the soil firmly around them so that they will not blow over with the weight of the stack upon them. The crosspieces are then nailed on at right angles to each other about 12 inches from the ground.

For assembling the peanut vines around the stacking poles a fork having six or eight tines is the best implement. As the vines are brought together they are laid in a circle on the ground, with the roots toward the pole at a convenient distance from the pole, so that the person doing the stacking can work effectively. In starting to build the stack a few vines are hung over each of the crosspieces, thus forming a foundation. The stack is built by piling the vines around the pole by hand, pressing them down, and keeping all the peanuts on the inside next to the pole (fig. 12). Occasionally a bunch should be divided and hung around the pole in order to bind the stack together and to keep the center about 1 foot higher than the outside, so that the stack may shed water. Where the vines are extremely long the center of the stack should be kept high from the start. In order to provide free circulation of air and prevent the possibility of the nuts heating and souring in the stacks, under no circumstances should the stacks be more than 36 to 42 inches in diameter.



FIGURE 12.—Partly completed stack of peanuts, showing the method of placing the vines in stacking. Completed stacks are shown in the background.

As the stack nears completion it should be gradually drawn to a point and a few vines crowded down over the sharpened top of the stake to complete the stack. A little dry grass or weeds may be placed on top of the stack, but too much will have a tendency to prevent circulation of the air through the stack and will interfere with the proper curing of the peanuts. A typical completed stack is shown in figure 13.

Peanuts are, as a rule, stacked in the field where the crop is grown, but sometimes the vines are hauled to a central point where the stacks are built close together and enclosed with a fence in order that the hogs may be turned into the field to feed on the nuts detached in harvesting.

Peanuts intended for the market should remain in the curing stacks 3 to 6 weeks before being picked from the vines. Peanuts cure rather slowly in the stacks, and if picked from the vines too soon the peas have a tendency to shrivel, and there is more or less danger of molding or fermenting after picking. Where the peanuts, vines and all, are to be used for stock feed, they should be cured in stacks for at least 4 weeks before being stored in barns.

PREPARATION FOR MARKET

PICKING

Picking the commercial peanut crop of the United States is done mainly during October, November, and December. Peanuts can be



FIGURE 13.—Typical stack of peanuts at the time of completion and before it has settled.

picked satisfactorily only when the vines are dry and brittle, as damp weather causes them to be tough and the pods difficult to detach. If for any reason it is necessary to pick the peanuts when they are damp or before they are fully cured, they should not be stored in large quantities but should be spread thinly on a floor and stirred from time to time until dry. If bagged or stored in bulk before they are fully dry, they will go through a sweating or souring process that renders them unfit for the market or for seed.

Hand picking, as practiced in Virginia and North Carolina in the early days of the peanut industry, is no longer practicable with the commercial crop. A satisfactory peanut-picking machine must remove all of the marketable peanuts from the vines with a minimum amount of breakage of the pods. Two types of picking machine are now on the market, one working on the principle of a cylinder grain thresher and the other provided with a metal mesh over which the peanuts are drawn in such a manner that they fall through and are pulled from the vines. The capacity of peanut-picking machines depends upon the make of machine and the condition of the peanuts, about 250 bushels per day being an average. In addition to removing



FIGURE 14.—Picking of peanuts and baling of peanut hay.

the pods from the vines, the machines have special facilities for cleaning the pods and taking off the small stems. Picking of peanuts is shown in figure 14 and piles in figure 15.

FIGURE 15.—Peanuts piled in a field bin made of peanut-hay bales.



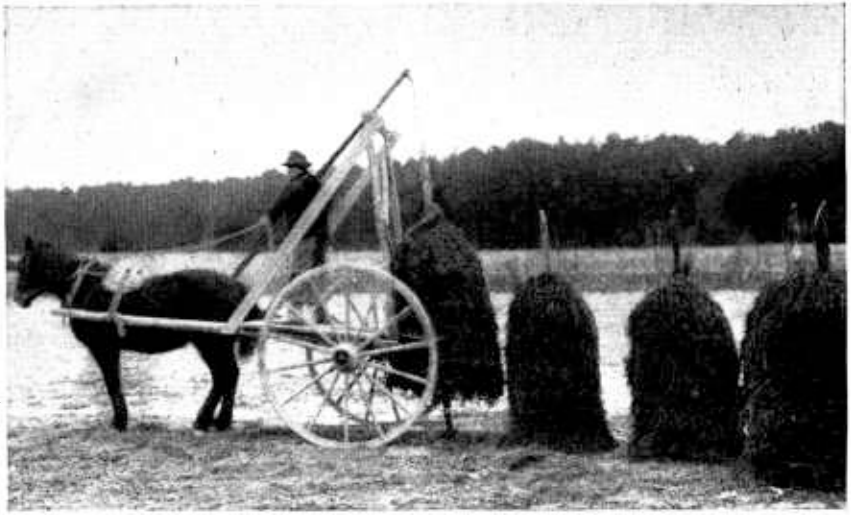


FIGURE 16.—Device used for lifting peanut stacks and moving them to the picker in the field.

In order that no time may be lost by hauling the stacks long distances, the picker is set at a convenient point near the center of the field and in large fields may be moved two or three times to shorten the haul. The entire stack, pole and all, should be brought to the picker, none of the peanuts being wasted by this method, as would be the case if the vines were removed from the poles in the field. The poles can be loosened from the ground by means of a handspike thrust underneath the crosspieces. Two men can then easily load the stacks on low-wheeled wagons, and during the unloading the poles are drawn out and thrown to one side.

In sections where peanuts are extensively grown, a special two-wheel cart, as shown in figure 16, is frequently employed for hauling the stacks to the picker. The cart is backed against a peanut stack, the short chain, attached to the end of the lever, is hooked around the top of the stacking pole, and the stack is raised free from the ground by drawing down the long end of the lever and securing it under a hook attached to the shaft. The outfit is then driven to the picker, the lever released, and the chain unhooked from the stacking pole. By driving the horse in a trot, an outfit of this kind will move almost as many stacks to the picker as a two-horse team attached to a wagon with two men to load and unload it. The cart, however, gives best results where the haul is short.

Slow, uniform operation of the picking machine will give best results as to both quality and quantity of peanuts, and if the vines are either damp or extremely dry the machine will need to be adjusted to suit their condition. The special attachments for recleaning the peanuts as they come from the machine should always be used, even though their use may slow down the work of picking somewhat.

Four or five men are required to operate the machine—one to place the peanut vines in small forkfuls upon the feeding table, one to feed them uniformly through the machine by hand, one to handle the peanuts as they are delivered from the machine, one to throw back the hay, and one to attend to the oiling and care of the machine.

BAGGING

Some of the peanut-picking machines have a bagging attachment, and the peanuts for market go directly into standard peanut bags. These are 32 by 36 inches in size and hold approximately 90 pounds of the Virginia type and 120 pounds of Spanish peanuts. As the bags are filled they are taken from the machine and the opening is closed by sewing with a bagging needle and soft twine. The bags are then hauled direct to a barn or storage shed. If, on account of shortage of teams, the peanuts cannot be hauled to the storage place the same day they are picked, the bags should be piled on a foundation of poles and securely covered with canvas or peanut vines, to protect them for a day or two until they can be hauled. In picking peanuts for oil mills there is an increasing practice of handling them in bulk (fig. 15). They must be quite dry for safe bulk handling.

Peanuts as they come from the picker frequently contain more or less moisture and should be stored so as to permit a free circulation of air. The building in which peanuts are stored should have a good roof, and the bags should be fully protected from rain. The bags should not be piled directly on the ground or on a tight floor, but poles or 2- by 4-inch scantlings should be placed under them to provide ventilation. Great losses occur in the farm storage of peanuts from the ravages of rats and mice, which not only destroy the nuts but by cutting holes in the bags cause serious losses during subsequent handling. Any storage can be made ratproof and mouseproof by lining it with woven wire the meshes of which are less than one-half inch.

CLEANING AND GRADING

Sometimes the peanuts are ready to market as they come from the picker, but more often there is more or less rubbish, including broken stems, light pods, roots, sand, and small stones, which must be removed before the peanuts are in condition to market. The grading is accomplished by recleaning, during which the trash and light pods are blown out. The peanuts may be again passed through the picking machine, utilizing the cleaning device. In recleaning, the peanuts may be fed through the picker in a steady stream as fast as they can be handled by the cleaning attachment, a heavy air blast being maintained. After being recleaned, they are resacked. Each sack is weighed, and the weight and grade are marked on it. The peanuts are then ready for marketing.

The United States grades of peanuts, issued by the Food Distribution Administration of the United States Department of Agriculture, have been adopted by the trade associations in certain of the Southern States. These grades are based on the size and the quantity, or percentage, of first-class kernels that may be shelled from a given sample. Copies of the grades can be obtained from the Food Distribution Administration, Washington, D. C.

Too much emphasis cannot be placed on the necessity for careful picking and grading of market peanuts, particularly if the grower wishes to make use of the facilities afforded under the United States Warehouse Act for financing purposes.¹ Minor mechanical damage or surface discoloration is of no disadvantage in selling peanuts for oil, but they must not be damp, moldy, or rancid.

VARIETIES FOR THE MARKET

At least 9 or 10 more or less distinct varieties of peanuts are grown in this country, but the varieties known as Virginia Runner, Virginia Bunch, and Jumbo furnish the large-podded peanuts appearing on the markets. According to good authority, the Virginia Runner and Virginia Bunch were originally one variety, and the present varieties are the result of selection. The variety known as Jumbo was developed through selection.

The Spanish variety, including the White (or true) Spanish, several strains of Improved Spanish, and one or two strains of Small Spanish, is used mainly for shelling and for the manufacture of peanut oil. Large quantities of the large-podded varieties, however, are shelled and enter the shelled-goods market. Several small-podded runner strains are of major importance for oil and feed purposes. Among these are Alabama Runner (African), Georgia Runner, and Carolina Runner, all of the same general type.

In addition to those mentioned above there are several varieties and strains mainly of local importance, including North Carolina



FIGURE 17.—Virginia Bunch peanuts.

¹ Information relative to the storage of peanuts under the United States Warehouse Act may be had by addressing the Food Distribution Administration, United States Department of Agriculture, Washington, D. C.



FIGURE 18.—Spanish peanuts.

(Wilmington), Tennessee White, Tennessee Red, Valencia, and Georgia Red, the last three having red-skinned peas, which are considered undesirable for oil manufacture and especially where mixtures appear in shelled goods of the white varieties.

Brief descriptions of various varieties follow:

Virginia Runner has a spreading habit of growth and forms pods both at the base of the plant and along the lateral stems. It is rather difficult to dig without losing a few of the peanuts and to stack so that the peanuts will not be exposed to the weather. This variety is grown extensively in southeastern Virginia and northeastern North Carolina.

Virginia Bunch has an upright or bunch habit of growth, and the pods are formed in a cluster around the base of the plant (fig. 17). It is easy to cultivate and is not difficult to harvest.

Jumbo is a comparatively new variety, with strains of both the runner and the bunch types, having somewhat larger pods and peas than either the typical Virginia Bunch or the Virginia Runner variety.

Spanish is the most important commercial variety in the South, especially outside of the Virginia-North Carolina district. The medium, or true, White Spanish, as shown in figure 18, is adapted for all purposes in the South Atlantic and Gulf coast regions. This variety is of an upright habit of growth, has rather heavy foliage, and has the pods clustered close about the base of the plants. It is easy to cultivate and to harvest.

Improved Spanish resembles the regular Spanish, but the vines are more vigorous and the pods and peas are larger.

Alabama Runner, formerly called **African**, is a low-growing runner peanut requiring a long season for its maturity. It produces a heavy yield of peas, which are fairly high in oil content, but this variety has not found general favor on the market.

North Carolina, or **Wilmington**, is a runner peanut somewhat resembling Virginia Runner, but it is of lighter growth and has smaller pods. Certain characteristics indicate that it may be closely related to the variety formerly known as

African. Peanuts of the North Carolina variety are used both for shelling and for small vending stock.

Tennessee White belongs to the Valencia type and has long and slender pods with several white-skinned peas in each. It is a rather desirable variety for shelling.

Tennessee Red is similar to Tennessee White except that its peas are red. It is not extensively used for shelling but is sold locally for roasting in the shell.

Valencia has a vigorous upright growth, with the pods clustered about the base of the plants, similar to Spanish. The peas are reddish and not considered desirable for shelling.

Georgia Red, sometimes called **Red Spanish**, is another variety closely related to Valencia. Its pods are short, usually containing two or three light-red peas.

MARKETING

Peanuts should always be sold by actual weight rather than by the bushel. Considerable confusion arose in the past from the use of the bushel as a measure for handling and selling peanuts. The large-podded Virginia varieties will, as a rule, weigh about 22 pounds, the Spanish 30 pounds, and the Runners 28 pounds to the measured bushel, but these weights are not constant and vary with locality, grade, and condition of the stock. If sales are conducted on the basis of tons or hundredweight and according to standard grades, both buyer and seller will have in mind a definite standard.

Peanut-cleaning factories and oil mills are essential in the preparation of the peanut and its products for the retail market. As the many and varied uses developed for peanuts require intricate and expensive machinery, this work cannot be done to advantage on the farm. Therefore, when the farmer has recleaned and graded his crop and delivered it to the shipping point or to the factory in the best possible condition, his connection with the work ends.

PEANUTS AND BYPRODUCTS AS STOCK FEED

Peanuts are exceptional among southern farm crops in that every part of the plant and all byproducts resulting from the factory processes through which peanuts pass can be utilized to good advantage, mainly for stock feeding. Peanut hay and the light or inferior pods constitute the byproducts on the farm; hulls, press cake, and meal result from the manufacture of peanut oil; hulls, shrunken and inferior kernels, germs, and fine particles of meats are byproducts of the cleaning factories; and considerable quantities of germs, red skins, and inferior particles of meats result from the manufacture of peanut butter and confections.

Peanut hay, or more strictly speaking, peanut straw, obtained from the vines from which the pods have been removed, was at one time allowed to go to waste, but now it has considerable market value, and hundreds of carloads are sold. Although it does not contain as much protein as alfalfa, clover, cowpea, or soybean hay, it may be used where a legume hay is desirable. It is considerably better than stovers and grass hays as a source of protein. Where the vines are properly cured in stacks, the hay will come from the picker with a bright color. Sufficient attention has not been given by the manufacturers of peanut-picking machinery to providing proper attachments for handling and cleaning the hay. If these machines were

provided with better facilities for separating the dirt from the hay, less difficulty would be experienced in feeding it. By proper manipulation of the picking machines now in use much of the sand and dust can be separated from the hay and its value increased. As a rule a baling machine is employed either in conjunction with the picker or following behind and packing the peanut hay into bales. Care must be taken in baling to mix the leaves and stems so that the product will be uniform. Peanut hay should be baled when dry and the bales stored where they will not be exposed to the weather.

Moldy peanut hay is unfit for feeding purposes, but hay that has been properly cared for may be fed to all kinds of livestock. If fed to mules and horses, it should be placed in racks or wire-bottom mangers, in order that any sand or dust may sift through. Cases are on record where both horses and mules have been injured by being fed either moldy or extremely dusty peanut hay, the symptoms frequently being similar to those of ordinary colic.

All light or inferior peanuts removed in recleaning and grading may be used for feeding hogs on the farm, or they may be ground, shells and all, mixed with other ingredients, and used as dairy, poultry, or hog feed.

With the establishment of the peanut-oil industry in the Southern States a line of practically new byproducts has appeared on the market, peanut cake and peanut meal being the most important. In the production of the highest grade virgin peanut oil abroad the nuts are shelled and hand-picked just as for the confectioners' trade, and the press cake resulting is of a very high grade. Where the nuts are crushed, shells and all, a lower grade cake and meal result, but even these make highly concentrated feed. When fed to dairy animals, peanut meal does not give the milk any peculiar flavor, and it can be fed continuously to hogs without any injurious effects except a slight softening of the flesh. Peanut meal made from shelled nuts is more desirable for hog feeding than that which includes the shells.

Both peanut meal and the shells resulting from cleaning peanuts for oil making find a ready use in the manufacture of mixed dairy feeds. The ground peanut hulls are also used for polishing tin plate. The greater part of the shells, however, are still used as fuel in the boilers of the cleaning plants.

In feeding pure peanut meal, reasonable precaution should be taken as regards the quantity fed, on account of its high protein content. The safest plan is to mix such meal with other feeds and form a balanced ration.

Formerly the greatest use for peanuts in the Gulf coast region was for feeding to livestock on the farms. The production of peanuts for the market in that section has been a transition from the stock-feeding phase. While there may be disadvantages connected with the feeding of peanuts to hogs, the fact remains that they are one of the most important hog feeds on southern farms.

There is no doubt that peanuts have a pronounced softening effect upon the carcasses of hogs. Numerous experiments have been conducted by the United States Department of Agriculture in cooperation with State experiment stations to determine the extent to which this effect can be overcome by finishing the hogs on corn and other hardening feeds and also to study other phases of the soft-pork problem. From the results so far available the following facts may

be mentioned: (1) There is no means by which the hogs that will kill soft may be detected until the carcasses have been chilled. (2) The production of pork of satisfactory firmness when peanuts are included in the rations is aided by feeding the peanuts to the pigs as early as possible after they are weaned and then changing them to a hardening ration such as corn, cottonseed meal, and other supplements as needed to permit a rather extended finishing period. (3) When a comparison was made of corn and peanuts as basal feeds for fattening hogs, no distinctive differences were found in the desirability of the flavor and aroma of the roasted fresh pork; however, the cured pork produced in part on peanuts is rather commonly believed to have a distinctive flavor. (4) The market discrimination against peanut-fed hogs is based largely on the oily, unattractive appearance of the fresh cuts, lard, and sausage and the difficulty in selling these products. The poor slicing quality of the bacon is also an important consideration.

Decision as to the use of corn or peanuts in the growing and fattening of hogs on southern farms must rest upon the profit per acre that can be made by each method. While no reliable figure is available, it is estimated that the average discount on peanut-fed hogs when sold is approximately 2 cents a pound on the live-weight basis. In order for pork production on peanuts to be a profitable practice, it must represent an economy sufficient to offset this difference in market value in comparison with feeds that produce firm hogs. It should be borne in mind, however, that peanuts are not the only feed that produces soft pork.

Where peanuts are grown exclusively for feeding purposes successive plantings should be made; also more than one variety should be used. The Spanish is undoubtedly the best all-round variety for feeding purposes, but it has the disadvantage that the seed is liable to sprout in the ground if wet weather occurs after it is mature. The Georgia Red has the characteristic of remaining in the ground without sprouting throughout the autumn, and sometimes until nearly spring, and for that reason it is especially adapted for hog feeding. The variety Alabama Runner is also a good hog-feeding sort, as it matures late, produces a large number of pods, and keeps well in the ground.

Spanish and similar varieties having an upright habit of growth are frequently mowed for hay, after which the hogs are turned in to harvest the peanuts. Another method is first to mow the tops for hay, dig and stack the greater part of the peanuts, and then turn in the hogs. Because of their low spreading habit of growth the Virginia Runner, North Carolina, and Alabama Runner are not adapted for handling in this manner. In many parts of the South peanuts are planted between the rows of corn, as shown in figure 19.

PEANUTS FOR OIL

When the East Indies fell to the Japanese early in 1942, a major source of vegetable oils for the United States was cut off. Before that time comparatively little peanut oil had been produced in this country. This situation necessitated enormous increases in acreage of peanuts, soybeans, and other oil-producing plants to meet domestic



FIGURE 19.—Peanut growing between rows of corn.

and lend-lease requirements for edible oils. A major part of the country's peanut crop is now grown specifically for oil production under a Government-sponsored and -subsidized program. In peacetime, oil prices afford so little income to growers of peanuts for oil that it is not a profitable crop. Now, however, since millions of acres must be grown for the oil that is so much needed, Government-supported prices make it feasible for the farmers to grow this crop.

Prospective growers should see their local Agricultural War Boards, State agricultural college representatives, county agents, or other local agricultural leaders for plans and conditions to be met in producing peanuts under this program.